

WHAT IS CLAIMED IS:

1. A method for reducing the formation of sunburn cells in human skin, comprising:  
applying to the skin a topical preparation comprising an amount of an agent effective to reduce the formation of sunburn cells in human skin, the agent comprising idebenone or a derivative of idebenone; and  
exposing the skin to ultraviolet radiation.
2. The method as recited in claim 1 wherein the ultraviolet radiation includes ultraviolet B radiation from sunlight.
3. The method as recited in claim 1 wherein the ultraviolet radiation includes ultraviolet B radiation from a man-made ultraviolet radiation source.
4. The method as recited in claim 1 wherein the idebenone or derivative of idebenone has a concentration of from about 0.001% to about 30% by weight of the topical preparation.
5. The method as recited in claim 1 wherein the idebenone or derivative of idebenone has a concentration of from about 0.01% to about 10.0% by weight of the topical preparation.
6. The method as recited in claim 1 wherein the idebenone or derivative of idebenone has a concentration of from about 0.10% to about 2.0% by weight of the topical preparation.
7. The method as recited in claim 1 wherein the idebenone or derivative of idebenone has a concentration of from about 0.5% to about 1.0% by weight of the topical preparation.

8. The method as recited in claim 1 wherein the topical preparation includes at least one of an anhydrous preparation and an oil-free preparation.

9. The method as recited in claim 1 wherein the topical preparation includes at least one of an oil-in-water, a water-in-oil, and a water-in-oil-in-water emulsion.

10. The method as recited in claim 1 wherein the topical preparation is in the form of at least one of a lotion, a cream, a gel, a solution, a spray, a cleanser, a powder, an ointment, a wax, a lipstick, a soap, a shampoo, and a hydroalcoholic solution.

11. The method as recited in claim 1 wherein the applying is performed prior to the exposing.

12. The method as recited in claim 1 wherein, relative to untreated skin, there is a 1 to 100% reduction in the number of sunburn cells when the applying is performed prior to the exposing.

13. The method as recited in claim 1 wherein, relative to skin treated with an alpha hydroxy acid, a beta hydroxy acid, and/or a Retinoid, there is a 1 to 100% reduction in the number of sunburn cells when the applying is performed prior to the exposing.

14. The method as recited in claim 1 wherein the applying is performed at least once a day.

15. The method as recited in claim 1 wherein the applying is performed prior to engaging in outdoor activities.

16. The method as recited in claim 1 wherein the skin is facial skin.

17. The method as recited in claim 1 wherein the skin is skin on the neck, arms, or legs.
18. The method as recited in claim 1 wherein the topical preparation is a cosmetic preparation.
19. The method as recited in claim 1 wherein the topical preparation is a dermatological preparation.
20. The method as recited in claim 1 wherein the topical preparation is an over-the-counter preparation.
21. The method as recited in claim 1 wherein the topical preparation is a pharmaceutical preparation.
22. The method as recited in claim 1 wherein the topical preparation further comprises at least one antioxidant.
23. The method as recited in claim 1 wherein the topical preparation further comprises at least one antioxidant selected from the group consisting of Vitamin E, Vitamin C, Glutathione, Superoxide Dismutase, Catalase, Co-Enzyme Q10, Green Tea Extracts, alpha lipoic acid, and N-furfuryladenine.
24. The method as recited in claim 1 wherein the topical preparation further comprises at least one ultraviolet filter substance.
25. The method as recited in claim 1 wherein the topical preparation further comprises at least one ultraviolet filter substance selected from the group consisting of avobenzone, cinoxate, dioxybenzone, homosalate, menthyl anthranilate, octocrylene, octyl methoxycinnamate, octyl salicylate, oxybenzone, padimate O, phenylbenzimidazole sulfonic acid, sulisobenzene, titanium dioxide, trolamine salicylate, and zinc oxide.

26. The method as recited in claim 1 wherein the derivative of idebenone is selected from the group consisting of a salt of idebenone, an ester of idebenone, and a protein-bound form of idebenone.
27. A method for preventing an increase in sun sensitivity in human skin in the presence of a compound capable of causing the increase in sun sensitivity, the method comprising:
- applying to the skin a topical preparation comprising an amount of an agent effective to reduce the formation of sunburn cells in human skin, the agent comprising idebenone or a derivative of idebenone; and
  - exposing the skin to ultraviolet radiation.
28. The method as recited in claim 27 wherein the increase in sun sensitivity includes an increase, relative to untreated skin, in sunburn cell formation upon the exposing.
29. The method as recited in claim 27 wherein the compound is included in the topical preparation so that the compound and the agent are applied to the skin together.
30. The method as recited in claim 27 wherein the compound is selected from the group consisting of an alpha hydroxy acid, a beta hydroxy acid, and a retinoid.
31. The method as recited in claim 27 wherein the applying the topical preparation is performed prior to an applying of the compound to the skin.
32. The method as recited in claim 27 wherein the applying the topical preparation is performed after an applying of the compound to the skin.

33. The method as recited in claim 27 wherein the applying the topical preparation is performed concomitant with an applying of the compound to the skin.
34. The method as recited in claim 27 wherein the idebenone or derivative of idebenone has a concentration of from about 0.001% to about 30% by weight of the topical preparation.
35. The method as recited in claim 27 wherein the topical preparation is in the form of at least one of a lotion, a cream, a gel, a solution, a spray, a cleanser, a powder, an ointment, a wax, a lipstick, a soap, a shampoo, and a hydroalcoholic solution.
36. The method as recited in claim 27 wherein the applying the topical preparation is performed prior to the exposing.
37. The method as recited in claim 27 wherein, relative to untreated skin, there is a 1 to 100% reduction in the number of sunburn cells when the applying is performed prior to the exposing.
38. The method as recited in claim 27 wherein the derivative of idebenone is selected from the group consisting of a salt of idebenone, an ester of idebenone, and a protein-bound form of idebenone.
39. A method for reducing the formation of sunburn cells in human skin, comprising making available a topical preparation directed to reducing the formation of sunburn cells in human skin, the topical preparation comprising an amount of an agent effective to reduce the formation of sunburn cells in human skin, the agent comprising idebenone or a derivative of idebenone.

40. The method as recited in claim 39 wherein the idebenone or derivative of idebenone has a concentration of from about 0.001% to about 30% by weight of the topical preparation.

41. The method as recited in claim 39 wherein the topical preparation is in the form of at least one of a lotion, a cream, a gel, a solution, a spray, a cleanser, a powder, an ointment, a wax, a lipstick, a soap, a shampoo, and a hydroalcoholic solution.

42. The method as recited in claim 39 wherein the derivative of idebenone is selected from the group consisting of a salt of idebenone, an ester of idebenone, and a protein-bound form of idebenone.

43. The method as recited in claim 39 wherein the topical preparation further comprises at least one ultraviolet filter substance.

44. The method as recited in claim 39 wherein the topical preparation further comprises at least one ultraviolet filter substance selected from the group consisting of avenobenzene, cinoxate, dioxybenzone, homosalate, menthyl anthranilate, octocrylene, octyl methoxycinnamate, octyl salicylate, oxybenzone, padimate O, phenylbenzimidazole sulfonic acid, sulisobenzene, titanium dioxide, trolamine salicylate, and zinc oxide.

45. A topical preparation for reducing the formation of sunburn cells in human skin, comprising:

an ultraviolet filter substance; and

an amount of idebenone or a derivative of idebenone effective to reduce the formation of sunburn cells in human skin

46. The preparation as recited in claim 45 wherein the ultraviolet filter substance is selected from the group consisting of avenobenzene, cinoxate, dioxybenzone, homosalate, menthyl anthranilate, octocrylene, octyl

methoxycinnamate, octyl salicylate, oxybenzone, padimate O, phenylbenzimidazole sulfonic acid, sulisobenzene, titanium dioxide, trolamine salicylate, and zinc oxide.

47. The preparation as recited in claim 45 wherein the formation of sunburn cells occurs upon an exposing of the skin to ultraviolet radiation.

48. The preparation as recited in claim 45 wherein the idebenone or derivative of idebenone has a concentration of from about 0.001% to about 30% by weight of the preparation.

49. The preparation as recited in claim 45 wherein the derivative of idebenone is selected from the group consisting of a salt of idebenone, an ester of idebenone, and a protein-bound form of idebenone.

50. The preparation as recited in claim 45 wherein the preparation is in the form of at least one of a lotion, a cream, a gel, a solution, a spray, a cleanser, a powder, an ointment, a wax, a lipstick, a soap, a shampoo, and a hydroalcoholic solution.

51. A topical preparation for reducing the formation of sunburn cells in human skin, comprising:

a compound capable of causing an increase in sun sensitivity in human skin; and

an amount of idebenone or a derivative of idebenone effective to reduce the formation of sunburn cells in the human skin.

52. The preparation as recited in claim 51 wherein the compound is selected from the group consisting of an alpha hydroxy acid, a beta hydroxy acid, and a retinoid.

53. The preparation as recited in claim 51 wherein the increase in sun sensitivity includes an increase, relative to untreated skin, in sunburn cell formation upon an exposing of the skin to ultraviolet radiation.

54. The preparation as recited in claim 51 wherein the idebenone or derivative of idebenone has a concentration of from about 0.001% to about 30% by weight of the preparation.

55. The preparation as recited in claim 51 wherein the preparation is in the form of at least one of a lotion, a cream, a gel, a solution, a spray, a cleanser, a powder, an ointment, a wax, a lipstick, a soap, a shampoo, and a hydroalcoholic solution.

56. The preparation as recited in claim 51 wherein the derivative of idebenone is selected from the group consisting of a salt of idebenone, an ester of idebenone, and a protein-bound form of idebenone.